

Alibaba Cloud

MaxCompute Pricing

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Document conventions









Style	Description	Example
 Danger	A danger notice indicates a situation that will cause major system changes, faults, physical injuries, and other adverse results.	 Danger: Resetting will result in the loss of user configuration data.
 Warning	A warning notice indicates a situation that may cause major system changes, faults, physical injuries, and other adverse results.	 Warning: Restarting will cause business interruption. About 10 minutes are required to restart an instance.
 Notice	A caution notice indicates warning information, supplementary instructions, and other content that the user must understand.	 Notice: If the weight is set to 0, the server no longer receives new requests.
 Note	A note indicates supplemental instructions, best practices, tips, and other content.	 Note: You can use Ctrl + A to select all files.
>	Closing angle brackets are used to indicate a multi-level menu cascade.	Click Settings> Network> Set network type .
Bold	Bold formatting is used for buttons, menus, page names, and other UI elements.	Click OK .
Courier font	Courier font is used for commands	Run the <code>cd /d C:/window</code> command to enter the Windows system folder.
<i>Italic</i>	Italic formatting is used for parameters and variables.	<code>bae log list --instanceid</code> <i>Instance_ID</i>
[] or [a b]	This format is used for an optional value, where only one item can be selected.	<code>ipconfig [-all -t]</code>
{ } or {a b}	This format is used for a required value, where only one item can be selected.	<code>switch {active stand}</code>

Table of Contents

1. Billing	05
2. Storage pricing (pay-as-you-go)	08
3. Computing pricing	09
4. Download pricing (Pay-As-You-Go)	15
5. View billing details	16
6. Switch billing methods	22
7. Upgrade or downgrade configurations	24
8. Outstanding payment warning and suspension policies	26
9. Renewal management	29

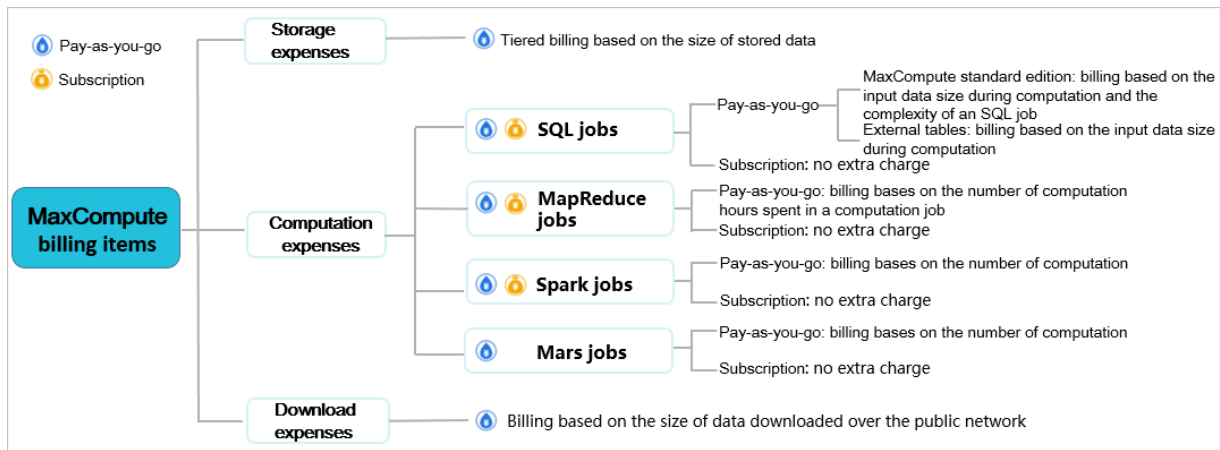
1. Billing

MaxCompute charges fees when you store data and run computing jobs in MaxCompute and download data from MaxCompute by using the Internet. MaxCompute supports pay-as-you-go and subscription billing methods. This topic describes the billing items and methods of MaxCompute to help you select a billing method that suits your business scenario. This topic also describes how to estimate costs for running SQL jobs in MaxCompute.

Note MaxCompute notifies you when you have an overdue payment. We recommend that you make a timely payment to avoid service interruption. If you have any questions, [submit a ticket](#).

Billing items and methods


The following figure shows the billing items and methods of MaxCompute.



- **Storage fees:** the fees that are charged by using a tiered pricing structure based on the size of data you store in MaxCompute. For more information about storage fees, see [Storage pricing \(pay-as-you-go\)](#).
- **Computing fees:** the fees that are charged for the use of computing resources. MaxCompute supports pay-as-you-go and subscription billing methods. The resource usage and payment of the two billing methods are independent of each other. Before you use a computing resource, you must associate the computing resource with a project. For more information about computing fees, see [Computing pricing](#).
 - **Subscription:** a billing method for SQL, MapReduce, Spark, and Mars jobs. You must pay for computing resources before you can use the resources.

Note For example, if you run 99 TPC Benchmark DS (TPC-DS) SQL jobs on 1 TB data with 160 CUs in MaxCompute, each job takes about 5 minutes on average. You can refer to this example to estimate the amount of CUs that you want to purchase.

- **Pay-as-you-go:** a billing method for SQL, MapReduce, Spark, and Mars jobs.
- **Download fees:** the fees that are charged based on the size of data that you download from MaxCompute by using the Internet. For more information about download fees, see [Download pricing\(Pay-As-You-Go\)](#).


 **Note** You are not charged for importing data to MaxCompute.

Payment: Expenses are calculated by day for each project.

Billing details: For more information, see [View billing details](#).

Billing method selection


MaxCompute supports pay-as-you-go and subscription billing methods.

 **Note** If you are new to MaxCompute, we recommend that you select the pay-as-you-go billing method. You may require only a small amount of resources before you get familiar with MaxCompute. If you select the subscription billing method, the extra CUs may be left unused. In this case, the pay-as-you-go billing method is more cost-effective.

Typically, you create two projects to run your service in MaxCompute. One project serves as the development environment and the other serves as the production environment. You can also create a DataWorks workspace in standard mode to create two projects. For more information about how to create a DataWorks workspace, see [Create a workspace](#).

- **Development project:** a project used to develop and debug jobs. In a development project, random jobs are run with a small amount of data. We recommend that you select the subscription billing method for the development project. The subscription billing method allows you to control costs by specifying a limit for resource consumption.
- **Production project:** a project to which you publish jobs that you have developed and debugged. If the jobs you publish consume a stable amount of resources, we recommend that you select the pay-as-you-go billing method. This billing method helps you avoid costs that are charged for unused resources in a subscription plan.

MaxCompute supports SQL, user-defined function (UDF), MapReduce, Graph, Spark, [Machine Learning Platform for AI](#), and Mars jobs. MaxCompute charges you only for SQL jobs without UDFs, MapReduce jobs, Spark jobs, and Mars jobs.

 **Note** For more information about the expenses on UDF, Graph, and Machine Learning Platform for AI jobs, follow the latest Alibaba Cloud announcements.

When you estimate storage fees, note that MaxCompute stores files by using compression technology. Files are typically compressed to one fifth of their original size. MaxCompute charges storage fees based on the sizes of compressed files. The estimation of storage fees is only for reference. Refer to your bill for the accurate storage fees.

Cost estimation of an SQL job

- If you select the pay-as-you-go billing method, pay attention to cost control. We recommend that you run the `COST` SQL statement to estimate the cost of an SQL job before you publish the SQL job to the production environment. For more information about the cost estimation of an SQL job, see [Cost SQL](#).
- If you use the MaxCompute Studio plug-in for IntelliJ IDEA to develop and run an SQL job, IntelliJ IDEA automatically estimates the cost of the SQL job before the SQL job is run. For more information, see [Develop an SQL script](#).

Further information about the subscription billing method for computing jobs

- Generally, each process consumes resources of 1 CU. If you purchase 10 CUs and submit a job that requires 100 concurrent processes, the job is performed in 10 rounds, with 10 concurrent processes executed in each round. Each process consumes resources of 1 CU.
- MaxCompute allows you to adjust the memory to be consumed by each process. For more information, see [Cost SQL](#).


 **Note** If your SQL statement contains a [UDF](#), each process consumes resources of 2 CUs.

For more information about the subscription billing method in MaxCompute, see [Computing pricing](#).

2.Storage pricing (pay-as-you-go)

MaxCompute data, such as tables and resources, is billed based on the storage space used on a daily basis. This topic describes MaxCompute storage pricing.

storage pricing International site (alibabacloud.com)

 **Note** The system may send you notifications that you have overdue payments. When this occurs, please clear all overdue payments to avoid instances being released. Please note that your instances may be released at a system-selected time after the payment due date.If you still have problems, submit a [ticket](#).


MaxCompute records the volume of data stored in each project on an hourly basis and then calculates the average volume of data stored for the day. The storage expense is equal to the average volume of data stored multiplied by the unit price.

The daily MaxCompute storage fee is calculated by applying the tiered unit prices in the following table to the average storage space used. MaxCompute offers up to 1 GB of free storage space each day. Storage space used between 1 GB and 100 GB costs USD 0.0011 per GB. If you need more than 1 PB of storage space per day, you must submit a ticket to get a quote.

0 < Storage space ≤ 1 GB (USD/GB/day)	1 GB < Storage space ≤ 10 TB (USD/GB/day)	10 TB < Storage space ≤ 100 TB (USD/GB/day)	Storage space > 100 TB (USD/GB/day)
Free	0.0011	0.0009	0.0006


For example, if the daily average data volume of a project is 1 PB, the daily expense for storage is as follows:

(10240 - 1) GB × USD 0.0011 per GB per day
 + (102400 - 10240) GB × USD 0.0009 per GB per day
 + (10240 × 10240 - 102400) GB × USD 0.0006 per GB per day
 = USD 661.9125 per day

-  **Note**
- MaxCompute compresses your data before storage. You are charged based on the data volume after compression. Therefore, the data volume that is billed is different from that calculated by yourself. Generally, the data volume after compression is about one fifth of the original one.
 - The system usually generates the bill within three to six hours after the current billing cycle. The daily bill is generated before 06:00 the next day. The specific time depends on the system billing time. MaxCompute storage fees are automatically collected from your account balance.
 - You can view your consumption details in [Bill Management](#) if needed.

3. Computing pricing

MaxCompute supports the pay-as-you-go billing method for SQL, MapReduce, Spark, Mars, and MaxCompute Query Acceleration (MCQA) jobs.

 **Note** MaxCompute sends you a notification when you have an overdue payment. To continue your access to MaxCompute resources, we recommend that you settle your overdue payments within the prescribed time limit. If you have any questions, [submit a ticket](#).

MaxCompute supports the following billing methods:

- **Pay-as-you-go:** Each job is billed based on the resources you consume after you execute a job. This billing method is used for standard SQL jobs, SQL jobs that reference external tables, MapReduce, Spark, Mars, and MCQA jobs.
- **Subscription:** You must purchase resources before you can use them. MaxCompute reserves the resources that you purchase.

MaxCompute supports SQL, MapReduce, Spark, Mars, MCQA, Graph, and machine learning jobs. You are charged for the use of SQL (excluding UDF), MapReduce, and Spark jobs. Mars jobs are charged starting from September 1, 2020. MCQA jobs are charged starting from October 1, 2020. Other types of computing jobs are not charged.

Subscription

You must purchase resources before you can use them. MaxCompute reserves the resources that you purchase. The amount of computing resources is calculated based on the compute units (CUs). One CU is equivalent to 4 GB of memory and 1 CPU core. The subscription billing method applies to the computing resources that you consume for jobs such as SQL, MapReduce, and Spark jobs.

Resource	Memory	CPU	Price (USD/month)
1 CU	4 GB	1 CPU	22.0

After you purchase subscription computing resources, you can monitor and manage the resources by using MaxCompute Management. For more information, see [Use MaxCompute Management](#).

If you are a new MaxCompute user, we recommend that you select the pay-as-you-go billing method. When you select the subscription billing method, you purchase a specific amount of computing resources. As a new user, you may consume less resources than what you purchase. Other resources may remain idle. The pay-as-you-go billing method is more cost-effective because you are billed based on the exact amount of resources that you consume.

Billing for standard SQL jobs

Every time you run an SQL job, MaxCompute calculates the fee based on the input data volume in computing and SQL complexity. On the following day, MaxCompute aggregates the fees for all executed SQL jobs into one bill under your Alibaba Cloud account. Then, MaxCompute deducts the fees from the balance of your Alibaba Cloud account.

MaxCompute calculates the fee for a standard SQL job based on the following formula:

Fee for a standard SQL job = Input data volume in computing × Complexity of the SQL job × Unit price of SQL jobs

The following table lists the unit price of standard SQL jobs.

Billable item	Unit price
Standard SQL job	USD 0.0438/GB

- **Input data volume in computing:** the volume of data scanned by an SQL job. Most SQL jobs support partition filtering and column pruning. In most cases, this value is less than the data volume of the source table.
 - **Partition filtering:** If you submit an SQL statement that contains the WHERE clause `WHERE ds > 20130101` (`ds` is the partition key column), only the data in the partitions that are read is billed.
 - **Column pruning:** If you submit the SQL statement `SELECT f1,f2,f3 FROM t1;`, only the data in columns f1, f2, and f3 of table t1 is billed. The data in the other columns is not billed.
- **SQL complexity:** The complexity of an SQL job is calculated based on the number of keywords in the SQL statements of the SQL job.
 - **Number of SQL keywords =** Number of JOIN clauses + Number of GROUP BY clauses + Number of ORDER BY clauses + Number of DISTINCT keywords + Number of window functions + `Max (Number of INSERT statements - 1, 1)` .
 - **Calculation of SQL job complexity:**
 - If the number of keywords is less than or equal to 3, the complexity of an SQL job is 1.
 - If the number of keywords is less than or equal to 6 but greater than or equal to 4, the complexity of an SQL job is 1.5.
 - If the number of keywords is less than or equal to 19 but greater than or equal to 7, the complexity of an SQL job is 2.
 - If the number of keywords is greater than or equal to 20, the complexity of an SQL job is 4.

You can run the following command to calculate the complexity of an SQL job:

```
COST SQL <SQL Sentence>;
```

Example:

```
odps@ $odps_project >COST SQL SELECT DISTINCT total1 FROM
(SELECT id1, COUNT(f1) AS total1 FROM in1 GROUP BY id1) tmp1
ORDER BY total1 DESC LIMIT 100;
Input:1825361100.8 Bytes
Complexity:1.5
```

In this example, the number of keywords in the SQL statement is calculated based on the following formula: 1 DISTINCT keyword + 1 GROUP BY clause + 1 ORDER BY clause + MAX (0 - 1, 1) = 4. The complexity of the SQL job is 1.5. If the data volume to compute is 1.7 GB, the fee is calculated based on the following formula:

$$1.7 \times 1.5 \times 0.0438 = \text{USD } 0.11$$

Note

- The bill is generated before 06:00 the following day.
- Failed SQL jobs are not billed.
- Your SQL jobs are billed based on the data volume after compression, which is similar to the storage service.

Billing for SQL jobs that reference external tables

Since March 2019, MaxCompute SQL jobs that reference external tables are charged based on the pay-as-you-go billing method.

SQL jobs that reference external tables are billed based on the following formula:

$$\text{Fee of an SQL job} = \text{Input data volume in computing} \times \text{Unit price of SQL jobs that reference external tables}$$

The following table lists the unit price of SQL jobs that reference external tables.

Billable item	Unit price
SQL jobs that reference external tables	USD 0.0044/GB

The SQL job complexity is 1. On the following day, MaxCompute aggregates the fees for all executed SQL jobs into one bill under your Alibaba Cloud account.

Note

- The bill is generated before 06:00 the following day.
- For the jobs that involve both internal and external tables, MaxCompute calculates the fees for jobs that reference internal tables separately from jobs that reference external tables.
- You cannot estimate the fees for SQL jobs that reference external tables.

Pay-as-you-go billing for MapReduce jobs

Since December 19, 2017, MaxCompute MapReduce jobs are charged based on the pay-as-you-go billing method.

MapReduce jobs are billed based on the following formula:

$$\text{Fees for MapReduce jobs of the day} = \text{Number of billable hours} \times \text{Unit price (USD)}$$

The following table lists the unit price of MaxCompute MapReduce jobs.

Billable item	Unit price
MapReduce job	USD 0.0690/hour/job

The number of billable hours of a MapReduce job is calculated based on the following formula:

$$\text{Number of billable hours of a MapReduce job} = \text{Number of job running hours} \times \text{Number of CPU cores consumed}$$

For example, if a MapReduce job that runs for 0.5 hours consumes 100 CPU cores, the number of billable hours is 50 based on the following calculation: $100 \text{ cores} \times 0.5 \text{ hours} = 50$.

After a MapReduce job is executed, MaxCompute calculates the billable hours of the job. On the following day, MaxCompute aggregates the fees for all executed MapReduce jobs into one bill under your Alibaba Cloud account. Then, MaxCompute deducts the fees from the balance of your Alibaba Cloud account.

Note

- The bill is generated before 06:00 the following day.
- Failed MapReduce jobs are not billed.
- The queuing time of jobs is not counted in the billable hours.
- If you have purchased the MaxCompute service by selecting the subscription billing method, you can execute MapReduce jobs for free within the subscription period.

Pay-as-you-go billing for Spark jobs

Since February 1, 2019, MaxCompute Spark jobs are charged based on the pay-as-you-go billing method. For more information, see [MaxCompute Spark](#). Spark jobs are billed based on the following formula:

$$\text{Fees for Spark jobs of the day} = \text{Number of billable hours} \times \text{Unit price (USD 0.1041/hour/job)}$$

The number of billable hours of a Spark job is calculated based on the following formula:

$$\text{Number of billable hours of a Spark job} = \text{MAX} [\text{Number of CPU cores} \times \text{Job running hours}, \text{Round up (Memory size} \times \text{Number of execution hours}/4)]$$

where:

- You must provide the number of CPU cores consumed, number of job running hours, and memory size.
- One billable hour is equivalent to 1 CPU core plus 4 GB of memory.

For example, if a Spark job that runs for 1 hour consumes 2 CPU cores and 5 GB of memory, the number of billable hours is 2 based on the following calculation: $\text{MAX} [2 \times 1, \text{Round up} (5 \times 1/4)] = 2$. If a Spark job that runs for 1 hour consumes 2 CPU cores and 10 GB of memory, the number of billable hours is 3 based on the following calculation: $\text{MAX} [2 \times 1, \text{Round up} (10 \times 1/4)] = 3$.

After a MaxCompute Spark job is executed, the system calculates the billable hours of the job. On the following day, MaxCompute aggregates the fees for all executed Spark jobs into one bill under your Alibaba Cloud account. Then, MaxCompute deducts the fees from the balance of your Alibaba Cloud account.

Note

- The bill is generated before 06:00 the following day.
- The queuing time of jobs is not counted in the billable hours.
- The fee for the same job may vary based on the amount of specified resources.
- If you have purchased the MaxCompute service by selecting the subscription billing method, you can run Spark jobs for free within the subscription period.
- For any questions about the billing for Spark jobs, [submit a ticket](#).

Pay-as-you-go billing for Mars jobs

Since September 1, 2020, MaxCompute Mars jobs are charged based on the pay-as-you-go billing method. For more information, see [Mars](#). The Mars jobs are billed based on the following formula:

$$\text{Fees for Mars jobs of the day} = \text{Number of billable hours} \times \text{Unit price (USD 0.1041/hour/job)}$$

The number of billable hours for a Mars job is calculated in the following way:

- Calculate the number of CPU cores and memory size that are consumed by the job.
- One billable hour is equivalent to 1 CPU core plus 4 GB of memory.
- MaxCompute uses the following formula to calculate the fees for Mars jobs: $\text{MAX} [\text{Number of CPU cores} \times \text{Number of job running hours}, \text{Round up} (\text{Memory size} \times \text{Job running hours}/4)]$.

For example, if a Mars job that runs for 1 hour consumes 2 CPU cores and 5 GB of memory, the number of billable hours is 2 based on the following calculation: $\text{MAX} [2 \times 1, \text{Round up} (5 \times 1/4)] = 2$. If a Mars job that runs for 1 hour consumes 2 CPU cores and 10 GB of memory, the number of billable hours is 3 based on the following calculation: $\text{MAX} [2 \times 1, \text{Round up} (10 \times 1/4)] = 3$.

After a Mars job is executed, MaxCompute calculates the billable hours of the job. On the following day, MaxCompute aggregates the fees for all executed Mars jobs into one bill under your Alibaba Cloud account. Then, MaxCompute deducts the fees from the balance of your Alibaba Cloud account.

 Note

- The bill is generated before 06:00 the following day.
- The queuing time of jobs is not counted in the billable hours.
- The fee for the same job may vary based on the amount of specified resources.
- If you have purchased the MaxCompute service by selecting the subscription billing method, you can execute Mars jobs for free within the subscription period.
- For any questions about the billing for Mars jobs, [submit a ticket](#).

Pay-as-you-go billing for MCQA jobs

Since October 1, 2020, MaxCompute MCQA jobs are charged based on the pay-as-you-go billing method. For more information, see [MCQA](#).

Each time an MCQA job is executed, MaxCompute bills you based on the amount of input data of the job. On the following day, MaxCompute aggregates the fees for all executed MCQA jobs.

MCQA jobs are billed based on the following formula:

$$\text{Fee of an MCQA job} = \text{Volume of input data for the MCQA job} \times \text{Unit price (USD 0.0438/GB)}$$
 Note

- MCQA jobs use dedicated computing resources. Even if you purchase the MaxCompute service by selecting the subscription billing method, MaxCompute bills you based on the amount of data scanned by an MCQA job when you run an MCQA job.
- MaxCompute bills you based on the amount of data scanned by each MCQA job (at least 10 MB for each MCQA job). Canceled MCQA jobs are billed based on the amount of data scanned.
- The bill is generated before 06:00 the following day.
- No fee is generated if no query is performed.
- By default, MaxCompute performs column-oriented storage and compression on data. MaxCompute calculates the amount of scanned data based on the compressed data.
- When you query a partitioned table, you can apply partition filter conditions to reduce the data scan volume and improve query performance.

4.Download pricing(Pay-As-You-Go)

This topic introduces Maxcompute download pricing.

Note The system may send you notifications that you have overdue payments. When this occurs, please clear all overdue payments to avoid instances being released. Please note that your instances may be released at a system-selected time after the payment due date.If you still have problems, submit a [ticket](#).

You can download data from the extranet through the MaxCompute Tunnel. The billing method for data downloads is Pay-As-You-Go. The calculation is as follows.

$$\text{Download Cost from Extranet/time} = \text{Downloaded Data Volume} \times \text{Download Price}$$

The price is as follows.

item	price
Data download	0.1166 USD/GB

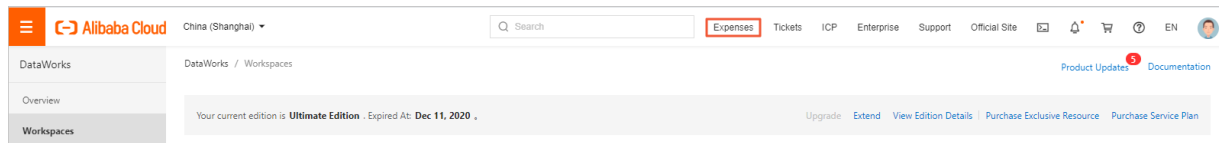
- Note**
- MaxCompute sends you messages to notify you of the size of your downloads, and to provide you with your download costs the next day.
 - Download data volume refers to the size of an HTTP body for one download request. The HTTP body that carries data uses protobuf encoding, so it is generally smaller than the original data size, but larger than the data stored in MaxCompute after compression.
 - The different billing methods are applicable to different network environments, such as public networks, classic networks of Alibaba Cloud, or VPC networks. For more information about MaxCompute service connections, see [Configure endpoints](#).

5.View billing details

This topic describes how to view the billing details and usage details of MaxCompute and how to analyze bills in typical scenarios.

Billing management

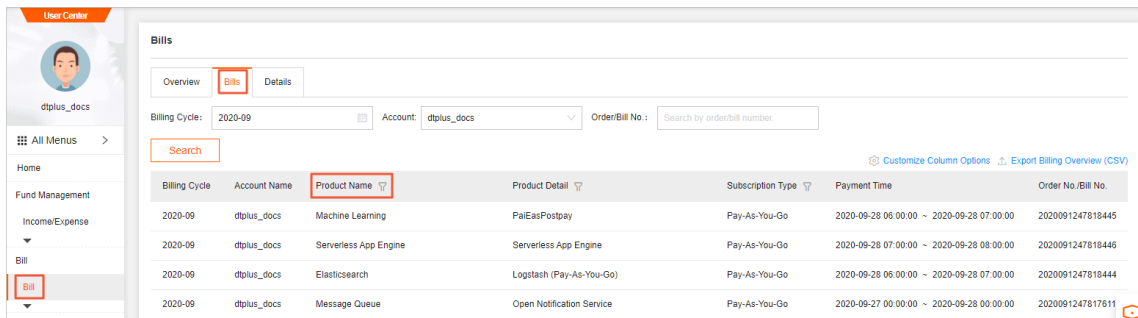
Log on to the [Alibaba Cloud Management Console](#). In the top navigation bar, click **Expenses**.



Note If you log on to the console as a RAM user, you must obtain the `AliyunBSSFullAccess` permission before you can use the console properly. For more information, see [Grant permissions to a RAM role](#).

Billing details

- Query daily bills.
 - i. On the **Bill** page, click the **Bills** tab.
 - ii. Select **MaxCompute** from the **Product Name** drop-down list to view the daily bills of MaxCompute.



Pay attention to the following configurations:

- **MaxCompute (Postpay)** with Subscription Type set to **Pay-As-You-Go**: all pay-as-you-go bills generated for storage, computation, and Internet download traffic on the day after pay-as-you-go billing is enabled under the account.
 - **Maxcompute (Prepay)** with Subscription Type set to **Pay-As-You-Go**: all pay-as-you-go bills generated for storage and Internet download traffic on the day after subscription billing is enabled under the account.
 - **Maxcompute (Prepay)** with Subscription Type set to **Subscription**: all subscription bills generated for new purchases, configuration upgrade and downgrade, and renewal on the day under the account.
- Query daily consumption details of pay-as-you-go billing items.
 - i. On the **Bill** page, click the **Details** tab.
 - ii. Set **Statistic Item** to **Billing Item**, **Statistic Period** to **By Day**, and **Subscription Type** to **Pay-As-You-Go**.

iii. Select MaxCompute from the Product Name drop-down list to view the daily bills of each billing item.

The screenshot shows the 'Bills' interface with the 'Details' tab selected. The 'Statistic Item' is set to 'Billing Item' and the 'Statistic Period' is set to 'By Day'. The table below displays five rows of billing data for the 2020-09 cycle.

Billing Cycle	Billing Date	Cost Center	Account Name	Product Name	Product Detail	Subscription Type	Instance ID
2020-09	20200901	Not Allocated	dtplus_docs	AnalyticDB for MySQL	Analytic Database Service	Pay-As-You-Go	am-2zer8yw4kvhtqd084
2020-09	20200901	Not Allocated	dtplus_docs	AnalyticDB for MySQL	Analytic Database Service	Pay-As-You-Go	ads-2ze2b999330husv
2020-09	20200901	Not Allocated	dtplus_docs	AnalyticDB for MySQL	Analytic Database Service	Pay-As-You-Go	am-2zer8yw4kvhtqd084
2020-09	20200901	Not Allocated	dtplus_docs	AnalyticDB for MySQL	Analytic Database Service	Pay-As-You-Go	am-wz95s3u22na59j6b2
2020-09	20200901	Not Allocated	dtplus_docs	AnalyticDB for MySQL	Analytic Database Service	Pay-As-You-Go	am-wz95s3u22na59j6b2

Pay attention to the following configurations:

- **Instance ID:** corresponds to a MaxCompute project. Bills in pay-as-you-go mode are generated by project. A bill is generated for each billing item each day.
- **Billing Item:** includes storage, computation, and Internet download traffic.
- **Usage:**

The following part describes how to calculate the usage of each billing item:

- **Storage:** the storage space used for the project on the day divided by 24.
- **Internet download traffic:** the total data downloaded over the Internet for the project on the day.
- **SQL task computing:** the total input data size of SQL standard tasks that were successfully executed for the project on the day multiplied by SQL complexity .
- **SQL external table computing:** the total input data size of SQL tasks that were successfully executed for calculating external tables for the project on the day.
- **Developer SQL task computing:** the total input data size of SQL tasks that were successfully executed for the project that uses developer resources on the day.
- **MapReduce task computing:** the computation hours used to complete MapReduce tasks for the project on the day.
- **Interactive analysis task computing:** the total input data size of interactive analysis tasks (Lightning) that were successfully executed for the project on the day.
- **Spark task computing:** the computation hours used to complete Spark tasks that were successfully executed for the project on the day.

You can set **Statistic Item** and **Statistic Period** to different values to view billing details from different dimensions. You can also click **Export Billing Overview (CSV)** in the upper-right corner to download the bills to your computer and analyze the bills in an Excel file. However, the billing details do not provide the consumption amount of a single task. To view the consumption amount of a single task, download usage records to obtain the original metering information for calculating the consumption amount of a single task.

Usage records

Download usage records

Go to the [Usage Record](#) page to view daily resource usage and how fees are calculated. That is, the storage fee each day and which tasks generated the fee.

Usage Records

Note:

- The format of exported files is CSV. You can use spreadsheet software to view these files.
- If an error occurs in an exported file, we recommend that you follow the instructions provided in the error message to export the file again.
- If the size of an exported file exceeds the maximum size, the file may be separated into several files. We recommend that you change the previous search conditions and export the file again.

* Product:

* Billing Method:

* Time Period:

Time Unit:

* Verification Code: [Get a new captcha](#)

Set the following parameters:

- **Product:** the service for which you want to download usage records. Select **MaxCompute (Pay-As-You-Go)**.
- **Billing Method:**
 - **MaxCompute(Postpay):** indicates the pay-as-you-go billing method.
 - **ODPSDataPlus:** indicates the subscription billing method.
- **Time Period:** the time range to query. You can specify the start time and end time of the bills you want to view.

If a task spans two days, for example, a task starts on December 1 and ends on December 2, you must set December 1 as the start time. Otherwise, you cannot find the task in the downloaded usage records. However, the consumption record can only be found in the bill of December 2.

Use usage records

After you export usage records to your computer as a CSV file, open the file to view detailed information.


The CSV file includes the following table headers:

```
ProjectId, MeteringId, MeteringType, Storage, EndTime, SQLInput(Byte), SQLComplexity, UploadEx, DownloadEx(Byte), MRCompute(Core*Second), InputOTS(Byte), InputOSS(Byte), StartTime, SpecificationType, DataWorksNodeID
```

The usage records allow you to perform the following operations:

- View the instance ID of each SQL or MapReduce task and run the following command to view details about the task, as shown in the following example:

```
odps@ odps_test>desc instance 2016070102275442go3xxxxxx;
ID 2016070102275442go3xxxxxx
Owner ALIYUN$***@aliyun-inner.com
StartTime 2016-07-01 10:27:54
EndTime 2016-07-01 10:28:16
Status Terminated
console_query_task_1467340078684 Success
Query select count(*) from src where ds='20160628';
```

 **Note** You can also view the execution information of a specific task by checking the `TASKS_HISTORY` and `TUNNELS_HISTORY` views of the MaxCompute `Information_Schema` service. However, the views only provide task execution information for the last 15 days.

- View the original billing information of each SQL or MapReduce task and calculate the fees of the task by using the formula provided in [Computing pricing](#). Examples:
 - Calculate the costs of a standard SQL task. `ComputationSql` in the `MeteringType` column indicates an SQL standard task. Use the following formula to calculate the computing costs of a standard SQL task: `Input data size (GB) × SQL complexity × SQL unit price` .
 - Calculate the costs of computing external tables, such as external Tablestore and OSS tables. Use the value of `InputOTS(Byte)` or `InputOSS(Byte)` in the CSV file as the data input size of the external table task. The fee of an SQL computing job that involves external tables is calculated by using the following formula: `Fee of an SQL computing job = Input data size × SQL complexity × Unit price for SQL computing that involves external tables` .

The unit price for an SQL computing job that involves external tables is USD 0.0044/(GB × Complexity). Here, the complexity coefficient is 1.

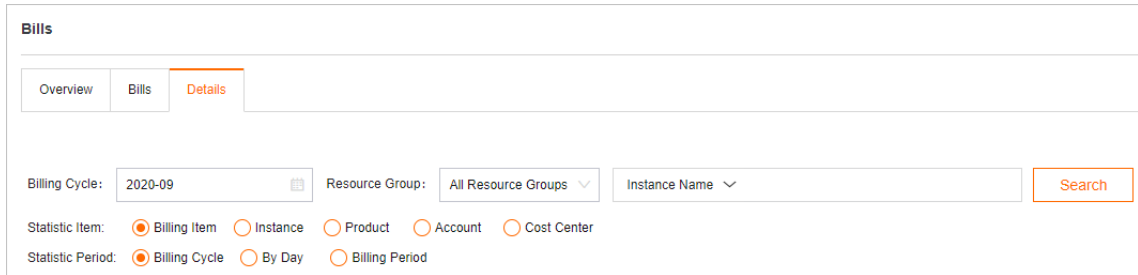
- Calculate the costs of a MapReduce task. Query the resource and time consumed by the MapReduce computing task in the `MRCCompute(Core*Second)` column.

Bill analysis in typical scenarios

- The fee surge is beyond my expectations.

If your fee surges in one or a few days but the increase is not caused by business growth, perform the following steps to analyze the causes:

- i. Analyze projects that generate high charges. On the `Bill` page, click the `Details` tab. Set `Statistic Item` to `Instance` and `Statistic Period` to `By Day`. Find the projects indicated by Instance ID that generate high charges. If the consumption amount of a project is not as expected, analyze the project.
- ii. Analyze billing items that generate high charges. On the `Bill` page, click the `Details` tab. Set `Statistic Item` to `Billing Item` and `Statistic Period` to `By Day`. Find the billing items that generate high charges. You can specify a project based on Instance ID and analyze its billing items that generate high charges.



iii. Analyze computing tasks that generate high charges. If the preceding analysis indicates that the costs of SQL computing tasks surge, you can choose **Bill > Usage Record** and download usage records. Then, you can analyze the records where **MeteringType** is set to **ComputationSql**. Sort the expenses of SQL tasks, and check whether the expense of an SQL task is higher than expected or whether a large number of SQL tasks exist. The expense of an SQL task is calculated by using the following formula: $\text{Input data size (bytes)} / 1024 / 1024 / 1024 \times \text{SQL complexity} \times \text{SQL unit price}$. If the expense of an SQL task is higher than expected, we recommend that you check the ID of the corresponding DataWorks node.

- If such an ID is available, view the node execution details in the DataWorks console.
- If such an ID is unavailable, the task is not initiated by a DataWorks scheduling node. You can view specific execution information provided in **TASKS_HISTORY** based on the SQL billing code indicated by Instance ID.

```
select operation_text from information_schema.tasks_history where ds='Partition corresponding to the date on which the task is executed' and inst_id='SQL billing code indicated by Instance ID';
```

● **Are my data uploads and downloads billed?**

You can check charges generated from data uploads and downloads by completing the following steps:

- i. Export usage records as a CSV file, and analyze the billing details for data downloads. **DownloadEx** indicates the Internet download billing item.
- ii. In the case that you find a record for a download fee of 0.036 GB (which is equal to 38,199,736 bytes), you can calculate the charges based on **Download pricing(Pay-As-You-Go)** by using the following formula: $(38,199,736 \text{ bytes} / 1024 / 1024 / 1024) \times \text{USD } 0.1166 / \text{GB} = \text{USD } 0.004$.
- iii. Optimize data downloads.


You can also check whether the service that is configured for your tunnel is billed due to Internet access. For more information, see **Configure endpoints**.

For example, if you are located in Suzhou and you select the China (Shanghai) region, you can download data to your VM through an ECS instance in the China (Shanghai) region, and then use your subscription ECS instance to download the data.

● **How is storage of less than one day billed?**

- i. Export usage records as a CSV file, and analyze the billing details for storage.
- ii. View **Storage** in the **MeteringType** column. A total of 333,507,833,900 bytes of data is stored for the alian project. The data was uploaded at 8:00. Therefore, storage was billed

from 9:07 and a total of 15 hours are charged for storage.

 **Note** If the billing cycle is one day, the billing stops at the end of each day. Therefore, the last record is not included in the bill of that day.

The average storage over the last 24 hours is calculated based on [Storage pricing \(pay-as-you-go\)](#).

--Calculate the average storage.

$333507833900 \text{ Byte} * 15 / 1024 / 1024 / 1024 / 24 = 194.127109076362103 \text{ GB}$

--The data size is 194 GB. The storage unit price for the range "greater than 1 GB and less than 100 GB" is USD 0.0028/GB/day. The storage unit price for the range "greater than 100 GB and less than 1 TB" is USD 0.0014/GB/day. Therefore, the storage fee per day is calculated by using the following formula with four decimal places:

$100 \text{ GB} \times \text{USD } 0.0028/\text{GB}/\text{day} + (194.127109076362103 \text{ GB} - 100 \text{ GB}) \times \text{USD } 0.0014/\text{GB}/\text{day} = \text{USD } 0.4118/\text{day}$

6. Switch billing methods

This topic describes how to switch the billing methods between pay-as-you-go and subscription for MaxCompute after you purchase resources.

Prerequisites

Pay-as-you-go and subscription resources are purchased.

Context

- The difference between subscription and pay-as-you-go lies only in the billing and running modes of the computing resources. The billing modes for storage and download resources are the same. In the subscription method, computing tasks can only use reserved and non-reserved computing resources that you purchase. Reserved computing resources are exclusive resources, whereas non-reserved computing resources and resources billed in the pay-as-you-go method are shared resources. The running speed of a task depends on the total number of running tasks.
- If you switch the billing method for a project, the new method takes effect immediately. However, if a task is in the running state, the new method does not take effect until the next time you execute a task.
- If you switch the billing method from pay-as-you-go to subscription, you must purchase MaxCompute compute units (CUs) in advance. You can only switch billing methods for projects in the same region.
- If you switch the billing method from subscription to pay-as-you-go, the fees that you have paid are not refunded. However, you can create projects to use the purchased CUs. After you purchase MaxCompute CUs, you can create multiple projects to share these CUs.
- If you frequently switch between billing methods, the efficiency of your computing tasks may be affected. Therefore, we recommend that you only switch billing methods as required.


Procedure

1. Log on to the [DataWorks console](#) by using your Alibaba Cloud account.
2. Click **Workspaces** in the left-side navigation pane.
3. In the top navigation bar, select the region to which the project belongs. Find the workspace for which you want to switch the billing method, and click **Modify service configuration** in the Actions column. In the **Modify service configuration** wizard, change the billing method for MaxCompute in the **Select Engines and Services** step.


Modify service configuration

1 **Select Engines and Services** 2 **Engine Details**

DataWorks Services

 Data Integration, Data Analytics, Operation Center, and Data Quality
Enables you to perform data synchronization and integration, orchestrate workflows, schedule and maintain recurring nodes, and check the quality of the output data.

Compute Engines

 MaxCompute Subscription Pay-As-You-Go Developer Edition [Buy Now](#)
Allows you to develop MaxCompute SQL and MaxCompute MapReduce nodes in DataWorks.
[Go to pay](#) [Renew](#) [Upgrade](#) [Downgrade](#)

4. Click Next.

5. In the Engine Details step, click OK.

7. Upgrade or downgrade configurations

This topic describes how to upgrade or downgrade the configurations of a MaxCompute subscription instance. You can scale out the resources allocated to a subscription instance to handle extra workload or scale in the resources to save costs.

Configuration upgrade

If the resources allocated to your MaxCompute subscription instance cannot handle the required workload, you can upgrade your resource configurations.

1. Log on to the [DataWorks console](#) by using your Alibaba Cloud account.
2. In the left-side navigation pane, choose **Compute Engines > MaxCompute**. In the top navigation bar, select a region.
3. In the Subscription section, click **Upgrade**.
4. Set Computing Unit to the number of compute units (CUs) that you need and select **MaxCompute (Subscription) Agreement of Service**. Then, click **Buy Now** to complete the upgrade.


After you submit the order, go to the **Orders** page to view the details of the upgrade order.

Configuration downgrade

Idle resources are still charged. If your actual workload is not able to use all of the resources allocated to your MaxCompute subscription instance, you can release these resources to save costs.

1. Log on to the [DataWorks console](#) by using your Alibaba Cloud account.
2. In the left-side navigation pane, choose **Compute Engines > MaxCompute**. In the top navigation bar, select a region.
3. In the Subscription section, click **Downgrade**.
4. Set Computing Unit to the number of CUs that you need and select **MaxCompute (Subscription) Agreement of Service**. Then, click **Buy Now** to complete the downgrade.

After you submit the order, go to the **Orders** page to view the details of the downgrade order.


 **Note**

- You cannot get a full refund for the remaining period on your subscription if you downgrade the configurations of an instance in the following situations:
 - A discount is applied to the previous order of your instance. For example, you placed a one-year subscription order. A discount of 15% was applied to the order. If the amount is USD 1,000, you actually paid USD 850. In this case, the refund will be calculated based on the amount after the discount, which is USD 850.
 - A voucher is applied to the previous order of your instance. In this case, the refund does not include the vouchers that you have used.
- You can downgrade the configurations of a subscription instance but you cannot cancel the subscription.

If you want to cancel a subscription, go to the [My ticket records](#) page to submit an application. After the application is approved, the projects for which the billing method is subscription are frozen and then deleted after 14 days. If you need to switch the billing method to pay-as-you-go, perform the switch before you submit an application.

8.Outstanding payment warning and suspension policies

This article provides you with the MaxCompute service stop and arrears strategy. alert for overdue payments rule for service suspension

 **Note** The system may send you notifications that you have overdue payments. When this occurs, please clear all overdue payments to avoid instances being released. Please note that your instances may be released at a system-selected time after the payment due date.If you still have problems, submit a [ticket](#).

Descriptions

The outstanding payment warning and suspension policies for MaxCompute are as follows.

Billing method	Outstanding payment warning and suspension policies
Subscription	<ul style="list-style-type: none"> • If your instance expires, the corresponding items in the instance are locked for 15 days (your MaxCompute project data is retained during this time). • If the instance is not renewed in the 15 days after the expiration date, the corresponding resources in the instance are released, and all MaxCompute project data associated with the instance cannot be recovered.
Pay-As-You-Go	<ul style="list-style-type: none"> • If a bill that is due cannot be paid through the bank card associated with the billing account, your instance will enter an overdue payment state. By default, you will receive an expiration reminder. • If the bill remains unpaid 15 days after it is due, your MaxCompute services are locked.

 **Note**

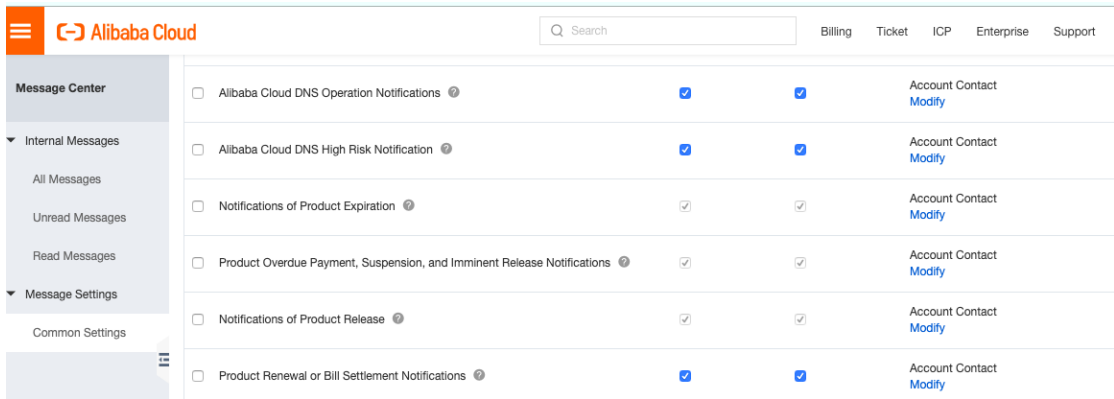
MaxCompute services enter the outstanding payment or suspension state if, during the running of a calculation task, the following error occurs.

```
ODPS-0420095: Access Denied - Authorization Failed [4093], You have NO privilege to do the restricted operation on {acs:odps:*:projects/project_name}. Access Mode is AllDenied.
```

Configure the notification methods of alerts for overdue payments

By default, the system notifies you of overdue payments by sending SMS messages or emails to the mobile phone or email address that is associated with your Alibaba Cloud account. To have these notifications sent to a RAM user, perform the following steps on the Message Center page under your Alibaba Cloud account.

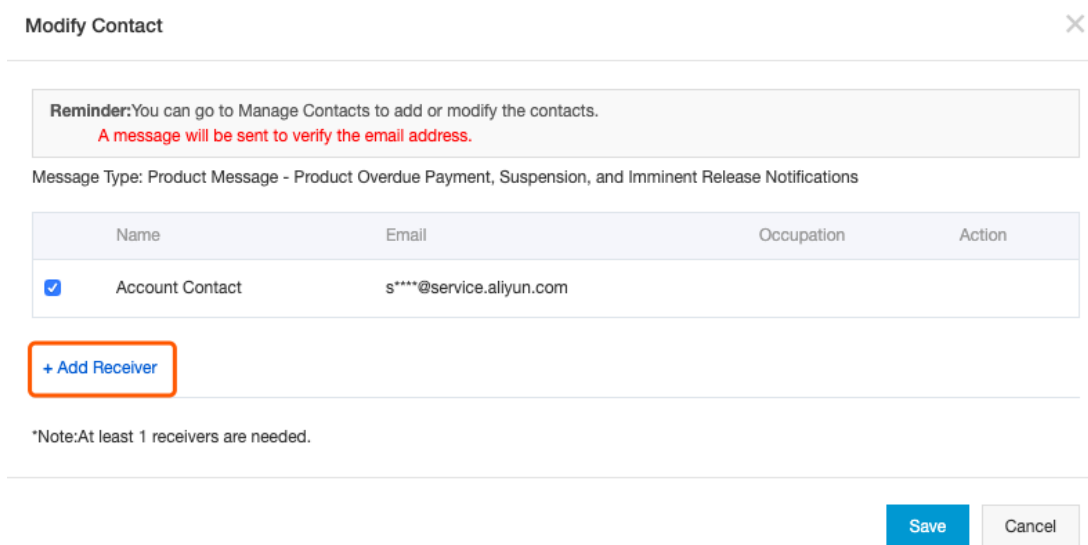
- 1. Go to the **Message Center** page.
 - i. In the left-side navigation pane, click **Common Settings**.



- ii. On the **Common Settings** page that appears, select **Product Overdue Payment, Suspension, and Imminent Release Notifications**, and click **Modify** in the **Contact** column.
- 2. In the **Modify Contact** dialog box that appears, modify the contact to whom you want to send the notification.

After you modify the contact, notifications about overdue payments, service suspension, and the imminent release of all Alibaba Cloud services under the account are sent to this contact.

- o Add an existing user as the message recipient: Select the user you want to add as a message recipient and click **Save**.
- o Add a new user as the message recipient.
 - a. Click **Add Receiver**.



b. Set Name and Email, and click OK.

Modify Contact ✕

Reminder:You can go to Manage Contacts to add or modify the contacts.
A message will be sent to verify the email address.

Message Type: Product Message - Product Overdue Payment, Suspension, and Imminent Release Notifications

	Name	Email	Occupation	Action
<input checked="" type="checkbox"/>	Account Contact	s****@service.aliyun.com		

[OK](#) [Cancel](#)

*Note:At least 1 receivers are needed.

c. Select the newly added user and click Save.

9. Renewal management

This topic describes how a Subscription instance can be manually or automatically renewed in the Renew center.

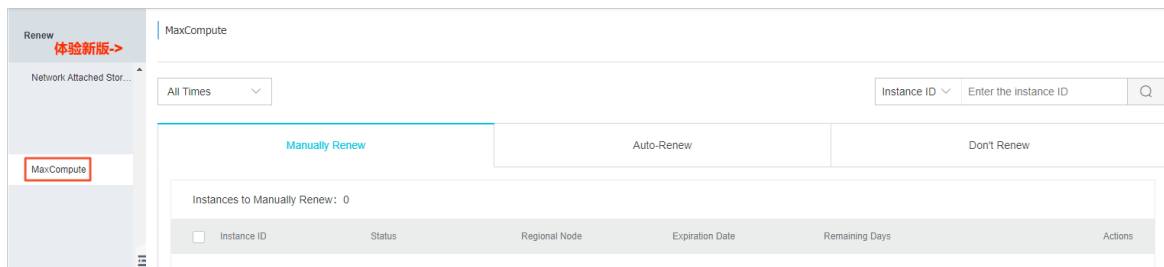
When your Subscription instance expires:

- The Subscription projects associated with the instance are immediately locked by the system, and the instance enters the **Expiration** state. You can activate the instance only after you pay for it.
- If the instance is not renewed within the specified time period or the renewal fails, the resources in the projects associated with the instance are released and cannot be recovered.

Procedure for manual renewal

To renew a Subscription instance manually, follow these steps:

1. Log on to the **MaxCompute console** by using your Alibaba Cloud account, choose **Billing Management > Renew** in the top navigation bar, and in the left-side navigation pane of the displayed page click **MaxCompute**.

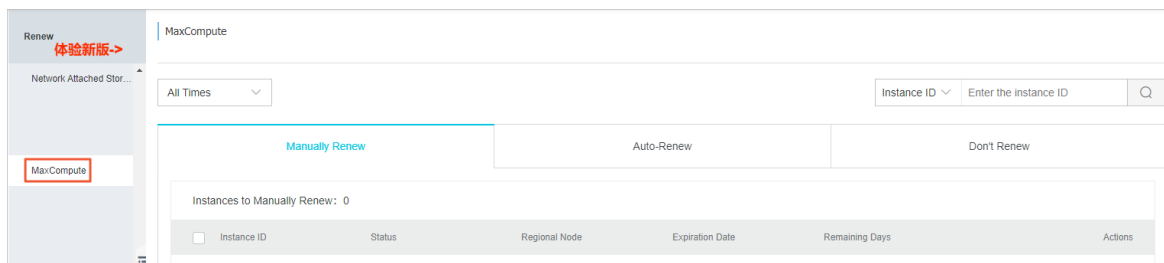


2. On the **Manually Renew** tab, find the instance you want to renew, and in the **Actions** column click **Renew**.
3. Drag the blue slider to specify a time period, and then click **Pay**.

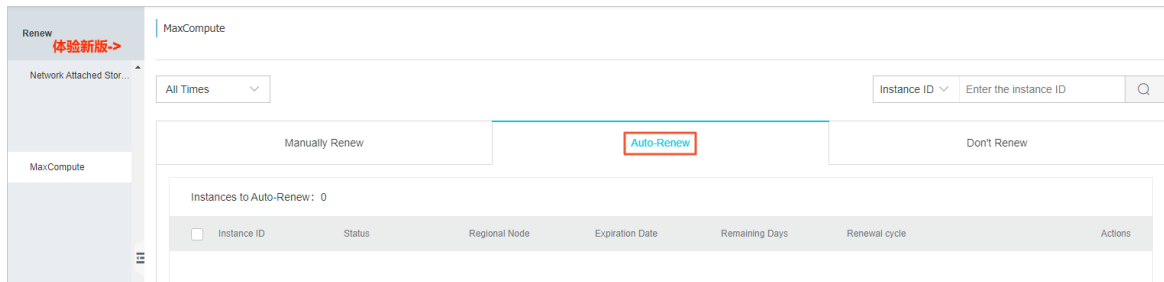
Procedure for automatic renewal

To enable automatic renewal, follow these steps:

1. Log on to the **MaxCompute console** by using your Alibaba Cloud account, choose **Billing Management > Renew** in the top navigation bar, and in the left-side navigation pane of the displayed page click **MaxCompute**.



2. Find the instance you want to renew, and in the **Actions** column click **Enable Auto-Renew**.
3. In the **Enable Auto-Renew** dialog box, select a time period from the **Auto-Renew Cycle** drop-down list and click **Enable Auto-Renew**.
4. On the **Auto-Renew** tab, view information about the instance whose fees can be automatically paid.



5. Optional. Click **Modify Auto-Renew** to change the automatic renewal cycle, or click **Don't Renew** to cancel automatic renewal.

- Note** After you enable automatic renewal for the instance:
- After you enable automatic renewal for the instance, the system attempts to deduct fees from your account at 8:00 on the next day following the expiration date. If the deduction fails, the system attempts to deduct fees again on the sixth day. If the deduction still fails, the system attempts to deduct fees for the third time on the 14th day. If this third deduction fails, we recommend that you manually pay for the instance. If you do not pay for the instance, the instance stops on the 15th day.
 - If you want to manually pay for the instance, make sure that you complete the payment before 8:00 on the day before the instance expires.
 - If you select the **Don't Renew** option, the system does not send expiration reminders to you. However, three days before the instance expires, the system sends a reminder to you to verify that you do not want to renew the instance.

Additional information

When your Subscription instance expires, the Subscription projects associated with the instance are immediately locked by the system, and the instance enters the **Expiration** state. Therefore, you can only activate the instance after a payment is made to renew the instance.

- Note** If the instance is not renewed within the specified time period or the renewal fails, the resources in the projects associated with the instance are released and cannot be recovered.